REMARKS

This is a response to the Office Action mailed 04/15/2008 and is accompanied by a Petition for Two-Month Extension of Time to extend the due date to 09/15/2008. Reconsideration with an eye toward the allowance of all pending claims is respectfully requested.

Withdrawn Claims

Applicant acknowledges that Claims 33-52 were withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a non-elected Species II and III. Applicant has herewith cancelled claims 33-52 without prejudice to reinstate them in this or in a related application.

Objection to the Title

Applicant acknowledges that examiners objection to the Specification as being directed at different subject matter than that to which the currently pending claims are directed. Although applicant does not agree with the examiner's conclusion, Applicant has amended the title of the invention to more closely identify the invention to which the claims are directed and trusts that the objection will be withdrawn.

Claim Rejections - 35 U.S.C § 102(e)

Claims 1-5, 17-21, 53, 55 and 57 are rejected under 35 U.S.C. 102(e) as being anticipated by Frank Barth (US Publication 2003/0191872), hereafter Barth. The examiner cites various passages in Barth to support this conclusion.

Without admitting the propriety of the rejection, applicant has amended independent claims 1, 17, 53, 55, and 57 to further clarify the claimed embodiment of the invention and to further distinguish from the cited art.

With reference to claims 1 and 17, applicant has amended the claims to further require of the encoding method steps (Claim 1), or encoder (Claim 17) in the disk drive controller:

> encoding additional commands onto the common control bus comprising:
>> selecting a coding standard;
>> determining an unused coding space of the coding standard;
>> forcing some of the bits into the unused coding space; and
>> using at least some of the remaining bits of the unused coding space
> for an additional control communication on the common bus.

With reference to claims 53, 55 and 57 applicant has amended the claims to further require of the controller (Claim 53), or encoding method claims (Claim 55 and 57):

> ... encoding additional commands onto the common control bus, wherein the encoding comprising:
>> selecting a coding standard;
>> determining an unused coding space of the coding standard;
>> forcing some of the bits into the unused coding space; and
>> using at least some of the remaining bits of the unused coding space for an additional control communication on the common bus.

Applicant submits that the cited prior art clearly fails to disclose, suggest, or motivate any need for an encoding scheme of the particular type now claimed, and that it would not be obvious to recognize or identify the particular encoding scheme by mere trial because of the vast and potentially unlimited number of encoding schemes available to try.

Applicant therefore submits that independent claims 1, 17, 53, and 57 are patentable over the cited art for the reasons argued above and trusts that the 35 USC 102(e) rejection will be withdrawn as to these independent claims.

Claims 2-6, 16, 18, 18-22, 54, 56 and 58 are dependent directly or through an intervening claim to one of independent claims 1, 17, 53, or 57 and are allowable for at least the same reason as the underlying base claim and further because each adds additional distinguishing limitations as stated in each claim. Applicant has also added new claims 61-68 that further define features of an embodiment of the invention. Claim 60 is added as a dependent claim from claim 7 and is separately discussed below. Applicant refers the examiner to the claims presented rather than repeating each of the many claims here in the Remarks. Certain elements of some of the dependent claims have been removed as they are redundant or inconsistent with the newly presented amendments to their underlying independent claim.

Claim Rejections - 35 U.S.C §103

Claims 6, 7, 16, 22, 23, 54, and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank Barth (US Publication 2003/0191872), hereafter Barth in view of Ichiro Kumata (US Patent 6715010), hereafter Kumata.

Claims 6, 7,16, 22, 23, 54, and 56-58 were rejected for the reasons set forth hereinabove for claims 1, 4, 17, 18, 21, 53, and 55, and further the examiner suggests that Barth discloses certain other elements of applicants claims that are not detailed in these remarks.

The examiner concedes that Barth fails to explicitly disclose a long list of additional features of applicant's claims; and attempts to make up for these deficiencies in Barth by suggesting that Kumata provides that additional disclosure; and concludes that the combination of Barth with Kumata obviates applicant's claims concluding that: *"It would have been obvious to one having ordinary skill in the art to combine the bus emulation methods of Kumata with the system of Barth. The motivation behind such a combination being for a serial transfer path to be optimized for a peripheral circuit requesting a high transfer rate and a peripheral circuit not requesting a high transfer rate."*

Applicant respectfully disagrees. Firstly, the claims rejected under 35 USC § 103 are each dependent claims that are directly dependent or dependent through an intervening claim from one of the now amended independent claims 1, 17, 53, 55, or 57 as argued above. Therefore, even if Kumata were to add the suggested teaching, the combination of Barth with Kumata would not result in applicant's claimed invention.

Furthermore, Kumata does not provide the disclosure, suggestion, or motivation to add to the purported teachings of Barth. Any attempt to provide the connection is only achieved by using impermissible hindsight. This is further supported by the long list of additional features that Kumata would need to add to Barth in an attempt to achieve applicant's invention, but that in fact is not achieved.

For example with reference to Claim 7 which is now amended to be in independent form. Applicant respectfully disagrees with the examiners suggestion that Kumata discloses, suggests, or motivates any need at Column 21, lines 57-67 for applicants claim 7 requirement

of:

> "determining at least one <u>invalid command</u> in used coding space of a coding
> standard; determining <u>unused coding space;</u> and encoding the at least one
> invalid command in the used coding space and at least one command in the
> unused coding space".

The referenced portion of Kumata (Column 21, lines 57-67) merely states:

> In the P/S conversion circuit 111, shift registers 720 to 728 are made to have
> the LFSR configuration before P/S conversion, encodes the data by
> operating exactly for N clock times (for example N=10), then performs P/S
> conversion and transmits the serial data SO.

> In the S/P conversion circuit 181, after receiving all the serial data, the shift
> registers 820 to 828 for S/P conversion are switched to the LFSR, wherein
> inverse calculation of the P/S conversion side is operated, the LFSR is
> operated exactly for the above N clock times for decoding, and the data is
> recovered.

Applicant submits that there is at least <u>no</u> mention, or any suggestion or motivation for:
"determining at least one **invalid command** in used coding space of a coding standard", or
"determining **unused coding** space of the coding standard", or "encoding the at least one
invalid command" as required by applicant's claim. Neither are other elements alone or in
combination disclosed, suggested, or have any motivation for change provided. Furthermore,
the P/S and S/P conversion is not an encoding scheme that satisfies the other conditions of
applicant's claims. These same arguments apply to other of the claims presenting analogous
features. Applicant therefore submits that Claim 7 is in condition for allowance and trusts that
the rejection will be withdrawn on this additional basis. Claim 60 is dependent from claim 7 and
patentable for at least the same reason as the underlying base claim and further because it
requires "encoding additional commands onto the common control bus further comprising:
forcing some of the bits into the unused coding space; using at least some of the remaining bits
of the unused coding space for an additional control communication on the common bus; and
coupling at least one of the parallel control signals and the serial control signals to at least one
of a parallel hard disk drive and a serial hard disk drive by the common control bus." Applicant
submits that these elements are not disclosed, suggested, or motivated in the prior art.

Other Allowable Claims

Applicant acknowledges that claims 8-15 and 23-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the underlying base claims and any intervening claims.

Without admitting the propriety of the rejection of the underlying base claims or the intervening claims, applicant has amended these allowable claims so that they do not depend from a non-allowable base or intermediate claim. Applicant submits that claims 8-15 and 23-32 are in condition for allowance and requests such allowance.
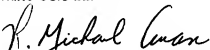
Conclusion

In view of the above amendments and remarks, applicant believes the pending application is in condition for allowance.

Claims have been added herein and converted to independent form while other claims have been cancelled and the Commissioner is authorized to charge any fees due for added or amended claims not otherwise already paid for, as well as for the Petition for Extension of Time, and/or any other fees due and not otherwise paid, to our Deposit Account No. 50-2207 (referencing Attorney Docket 59472-8025.US01).

The Director is authorized to charge any additional fees that are due in connection with this Amendment or papers associated with this Amendment, including fees not otherwise paid, to Deposit Account 50-2207.

Respectfully submitted,
Perkins Coie LLP

Date: _9/4/2008_

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